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EXAMINER

JARRETT, SCOTT L

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,581

Applicant(s)

CHEN ET AL.

Examiner

Scott L. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The attempt to incorporate subject matter into this application by reference to Foundation for Intelligent Physical Agents (FIPA; Specification, Page 3, Lines 19-20); Workflow standard – terminology & glossary (Specification, Page 4, Lines 18-19); and HP E-Speak (Specification, Page 19, Lines 27-28) is not proper.

Appropriate correction required.

Claim Objections

2. Claims 15-18 are objected to because of the following informalities: the use of the acronym CPM instead of the proper (full) term collaborative process manager.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result.

Regarding Claims 1-13, Claims 1-13 recite an abstract idea. The recited method for managing a collaborative process involving two enterprises does not apply, involve, or use the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not

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within the technological art as explained above claims 1-13 are deemed to be directed to non-statutory subject matter.

Regarding Claims 14-20, Claims 14-20 recite an abstract idea. The recited system for allowing the collaboration of two enterprises does not apply, involve, or use the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not within the technological art as explained above claims 14-20 are deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained above. Looking at the claims as a whole, nothing in the body of the claims recites any structure or functionality to suggest that a computer performs the recited steps.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 4 recite the limitation "wherein the step of the **current task...**" in

Claim 1. There is insufficient antecedent basis for this limitation in the claim.

Examiner interpreted the Claims to read "the method of claim 2 wherein the step of the current task...."

7. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite and failing to point out and distinctly claim the subject matter which the applicant regards as the invention.

Regarding Claim 14 the disclosure does not clearly define the phrase "system." Regarding Claim 14 the disclosure does not clearly define the phrase "system." A system as claimed could contain a plurality of elements and without further definition of the system elements the phrase as claimed is vague and indefinite.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 6-9, 14-15 and 17-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Advanced Decision Environment for Process Tasks (ADEPT) aspects of which are discussed in the following references:

I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for business process management (1996) herein after referred to as reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes (1996) herein after referred to as reference B.

III. O'Brien, P.D. et al., Agent based process management: applying intelligent agents to workflow (1998) herein after referred to as reference C.

IV. Alty, J.L. et al., Advanced Decision Environment for Process Tasks: Overview and Architecture (1994) herein after referred to as reference D.

Regarding Claim 1 Advanced Decision Environment for Process Tasks (ADEPT) also referred to as Agent Enhanced Workflow (AEW) or Agent Based Process Management (APMS), teaches a method and system for managing a plurality of inter-enterprise (cross enterprise, cross organizational, virtual enterprise, etc.) collaborative business processes (workflows, collaborative workflow/process, etc.) utilizing a plurality

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of collaborative process managers (agents; see reference A: Pages 1-11; Figures 1-4; see reference B: Pages 1-12; Figures 1-2, 6-7 and 10; see reference C: Section 4.1, pages 3-5; Page 9; Figures 2, 3 and 5; see reference D: Pages 1-3; Figures 1-5).

More specifically Advanced Decision Environment for Process Tasks teaches a method and system for managing a collaborative process that involves at least a first player in a first enterprise having a first collaborative process manager and a second player in a second enterprise having a second collaborative process manager comprising (see reference A: Pages 1-11; Figures 1-4; see reference B: Pages 1-12; Figures 1-2, 6-7 and 10; see reference C: Section 4.1, pages 3-5; Page 9; Figures 2, 3 and 5; see reference D: Pages 1-3; Figures 1-5):

a) defining an inter-enterprise collaborative business process (process description, creation, modeling, etc.) having a plurality of work nodes; wherein each work node (task) has an identifier (task role identifier) for specifying the agent (entity, role, player, etc.) responsible for execution of the work node (see reference C: Pages 3-4; Figure 3);

b) the first collaborative process manager executing a first peer instance of the collaborative business process; and

c) the second collaborative process manager executing a second peer instance of the collaborative business process;

wherein the first and second peer instances of the collaborative business process form a logical execution instance (process instance); and

wherein the first and second peer instances of the collaborative business process communicate via messages (information exchange, negotiation, synchronization, communication, etc.; see reference C: Page 7; see reference D: Sections 2.2-2.3, Pages 4-7 and 9).

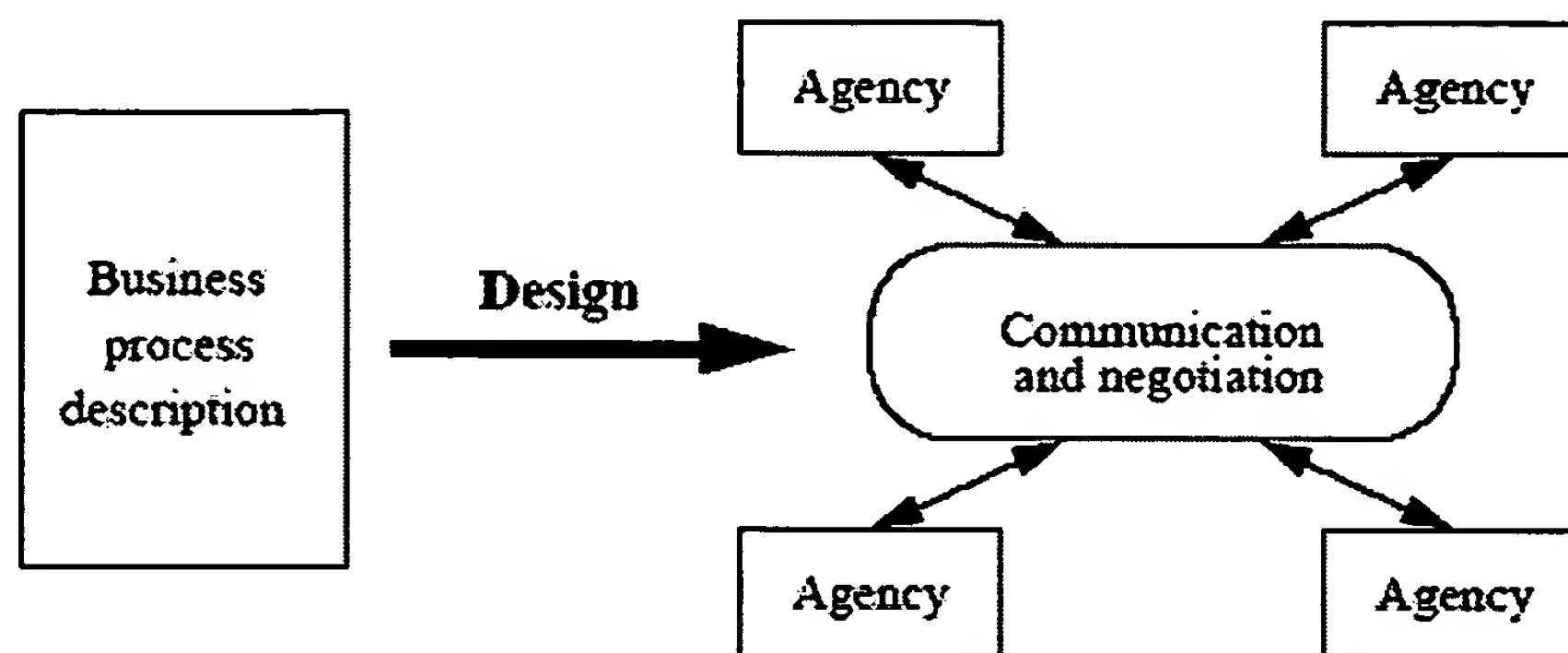


figure 1 Designing an agent-based business process management system.

Figure 1: Figure 1, Reference A

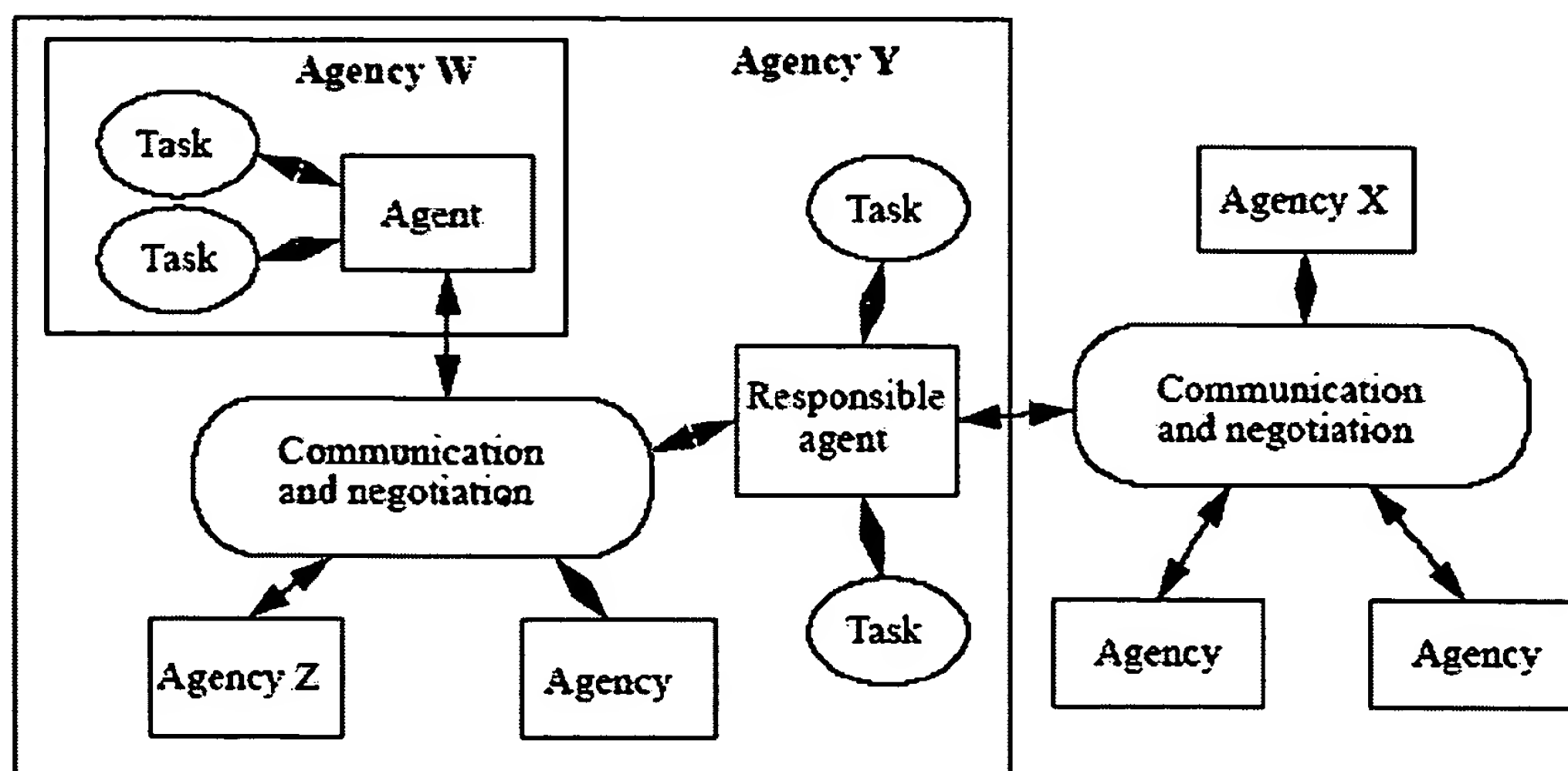


figure 2 The logical hierarchy of agencies.

Figure 2: Figure 2, Reference A

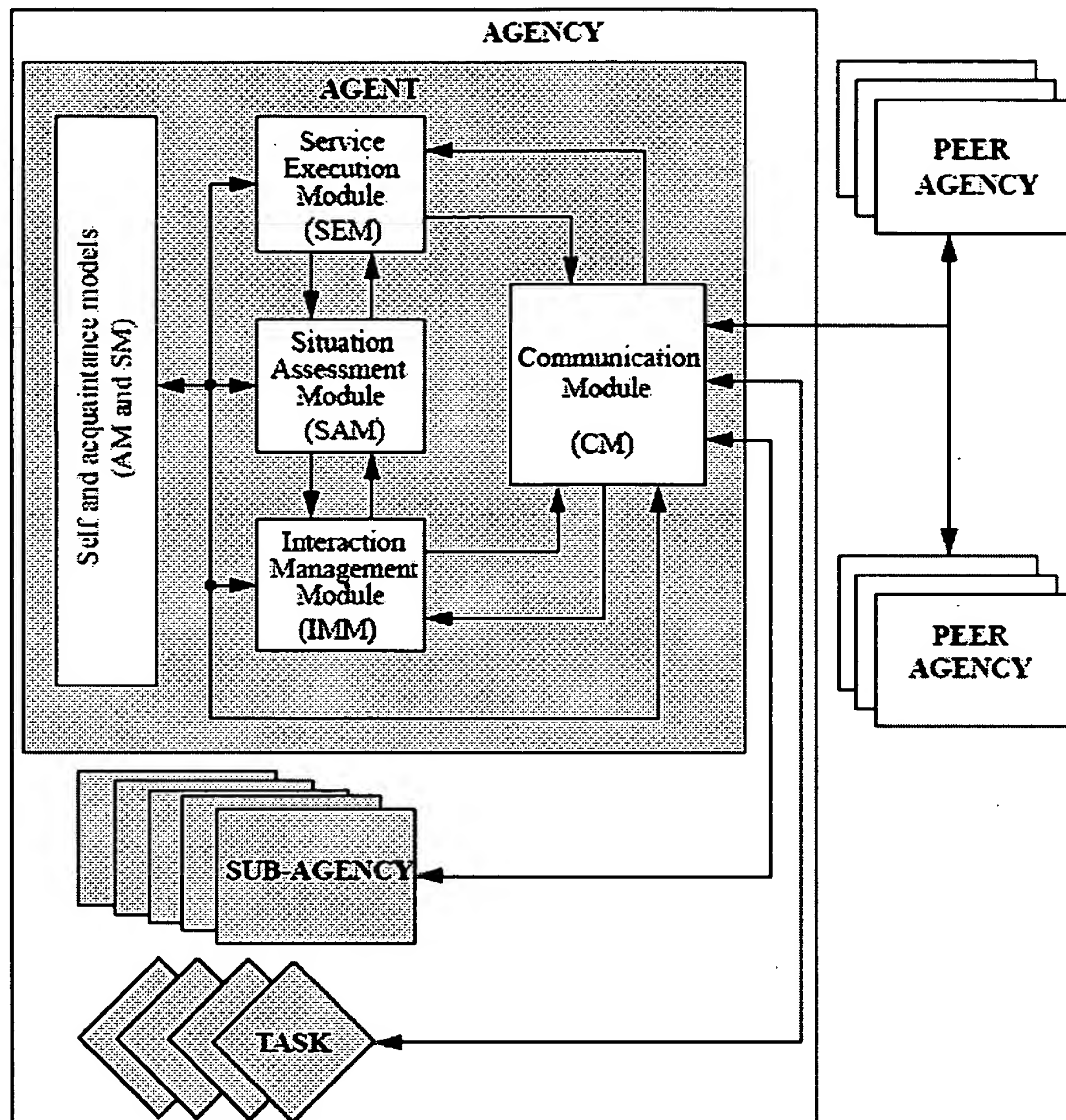


figure 3 An agent architecture.

Figure 3: Figure 3, Reference A

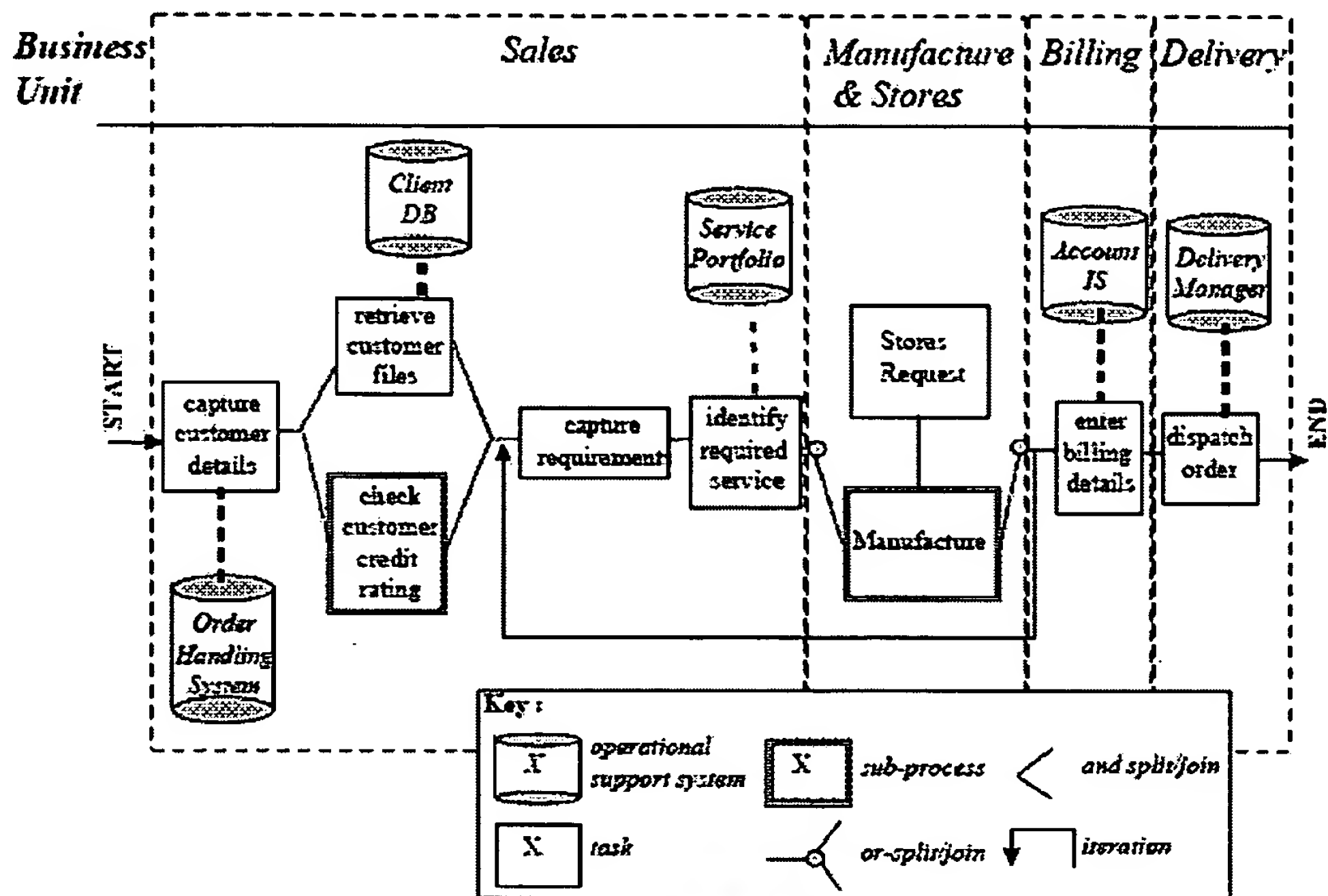


Figure 2 : A Sales Business Process

Figure 4: Figure 2, Reference C

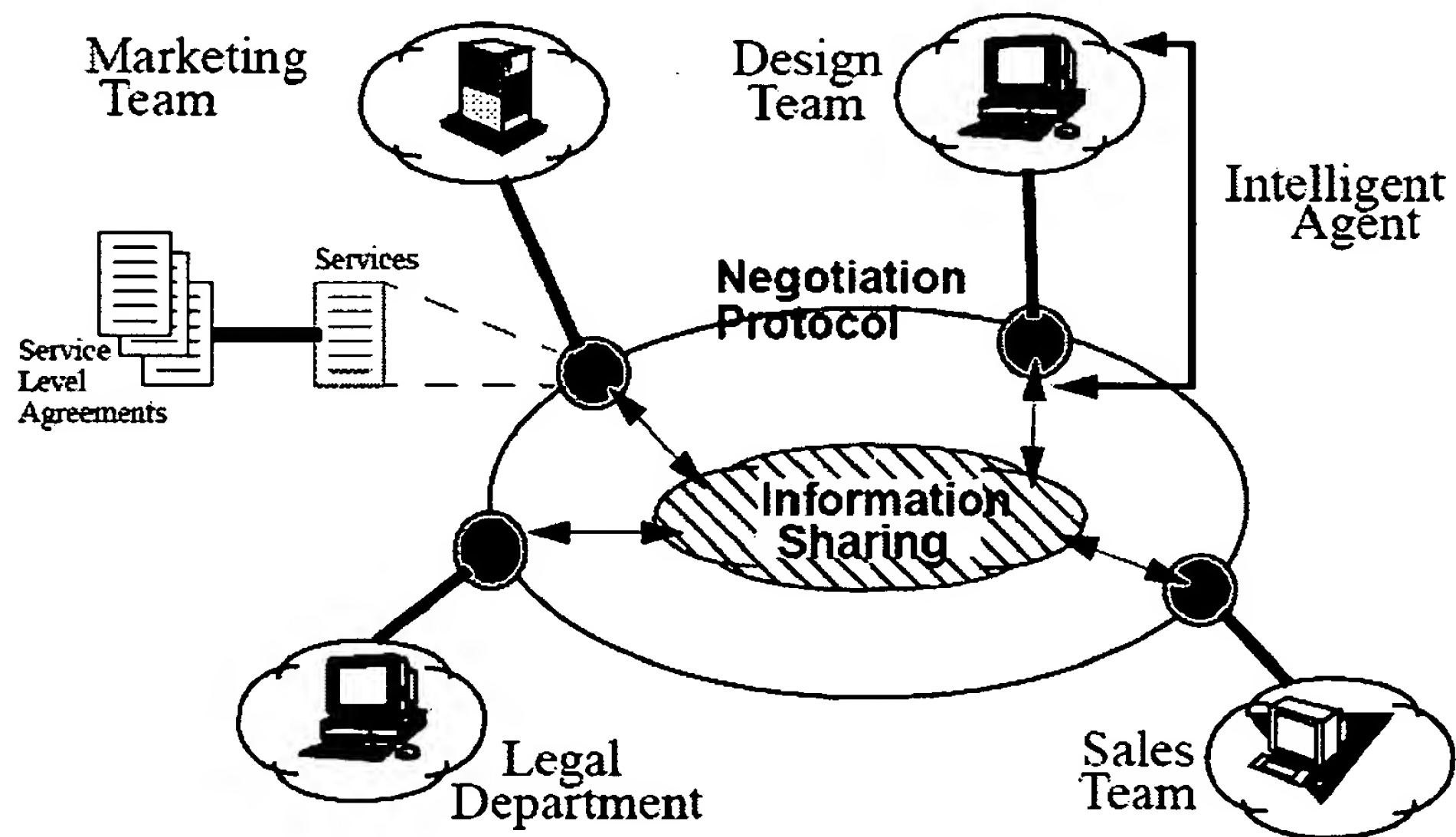


FIGURE 1. An ADEPT Environment

Figure 5: Figure 1; Reference B

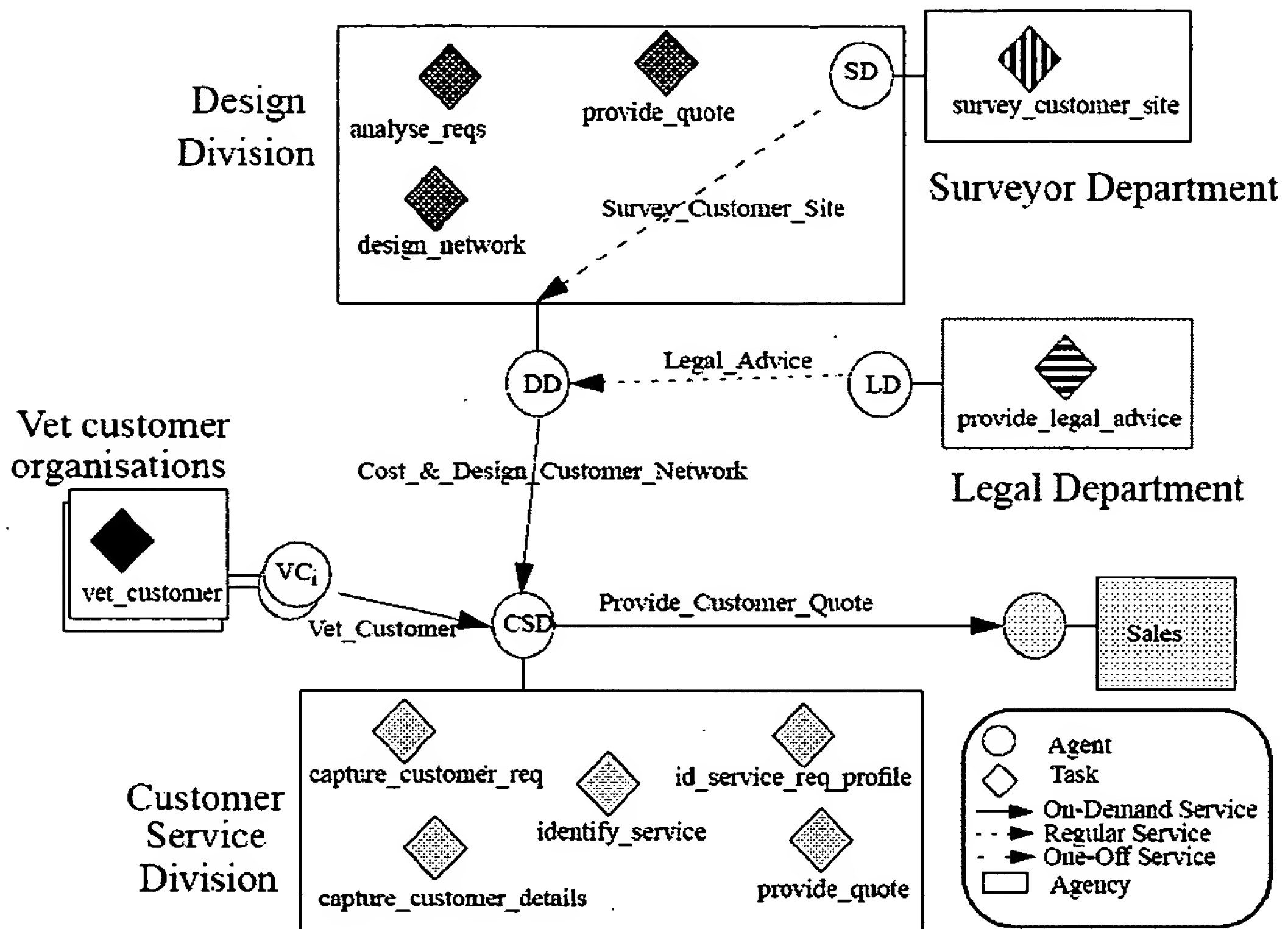


FIGURE 7. Agent System for the Provide Customer Quote Business Process

Figure 6: Figure 7, Reference B

Regarding Claim 2 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein the collaborative business processes include a plurality of tasks, further comprises (service execution, situation assessment, communication, and interaction modules; see reference A: Section 3, Pages 7-11; Figures 1-3; negotiation, resource management and enactment modules; see reference B: Figure 7; see reference C: Section 3, Pages 6-9; Section 4.1, Page 9; Figure 5; see reference D: Section 4, Pages 8-12):

- d) a collaborative process manager (agent) receiving a task;
- e) a collaborative process manager determining if the task is its responsibility (situation assessment);
- f) when the task is the responsibility of the collaborative process manager, executing the current task (enactment, action); and
- g) when the task is not the responsibility of the collaborative process manager, not executing (ignoring) the task.

Regarding Claim 3 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein the when task is the responsibility of the collaborative process manager (agent), executing the task further comprises (see reference B: Sections 2.1-2.2, Pages 4-8; see reference D: Section 4, Pages 8-12):

- f_1) scheduling the task (provisioning, delegating, resource management);
- f_2) dispatching the task for execution (provisioning, delegating, resource management);
- f_3) upon completion of task generating a message (communication, signal, alert, inform, etc.); and
- f_4) sending a message (communication, signal, notice, alert, inform, etc.) to another collaborative process manager (agent, caller, invoker, etc.).

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Regarding Claim 4 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein when the task is not the responsibility of the collaborative process manager, not executing (invoking) the task further comprises (see reference B: Sections 2.1-2.2, Pages 4-8; see reference C: Pages 7-8; see reference D: Section 4, Pages 8-12):

g_1) not executing the task (ignore);

g_2) waiting for a message from another collaborative process manager; and

g_3) receiving a message from another collaborative process manager

wherein it is inherent in message based systems that components (modules, agents, systems, etc.) to send/receive messages, wait for messages, review/analyze messages, act upon messages based on the analysis and send messages (status, updates, etc.) after the action/task has been completed.

Regarding Claim 6 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein the system uses a key (cooperation key, handle, identifier, symbol, etc.) to identify a logical instance of the collaborative business process and to correlate and synchronize multiple peer instances of the execution of a single collaborative business process (see reference A: Section 3.1, Pages 8-9; Figure 4; see reference D: Section 4, Pages 8-11).

Regarding Claims 7 and 19 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system employing

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messages for synchronizing the peer process instances and for exchanging data between process instances; wherein each message includes (see reference A: Section 3.1, Pages 8-9; Figure 4; see reference D: Section 4, Pages 8-11):

- a key (cooperation key, handle, identifier, symbol, etc.) for specifying (identifying) a logical process instance (conversationID, informoID, etc.);
- a local handle of the process instance and task (message);
- a status (results, content, etc.); and
- a sub-packet (packet, grouping, etc.) of process data passed to a task (message, process manager).

Regarding Claims 8 and 20 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein a list of process roles (roles, agencies) for indicating logical participants of the collaborative process; wherein each work node has a task role that matches one of the process roles; and wherein a peer process having a process role that matches the task role of a work node is responsible for executing the work node (see reference A: Pages 1-11; Figures 1-4; see reference B: Pages 1-12; Figures 1-2, 6-7 and 10; see reference C: Section 4.1, Pages 3-5; Page 9; Figures 2, 3 and 5; see reference D: Pages 1-3; Figures 1-5).

Regarding Claim 9 Advanced Decision Environment for Process Tasks teaches providing a collaborative process definition language (service description, service language, common communication language/mechanism, process description, process

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modeling) for defining the collaborative business process (see reference A: Section 2.1, Pages 4-6; see reference B: Section 2.2, Pages 6-8; see reference C: Section 1.4, Pages 3-4; see reference D: Section 4.1, Pages 8-9).

Regarding Claim 14 Advanced Decision Environment for Process Tasks a system for allowing a first player in a first enterprise to collaborate with a second player in a second enterprise comprising (see reference A: Pages 1-11; Figures 1-4; see reference B: Pages 1-12; Figures 1-2, 6-7 and 10; see reference C: Section 4.1, pages 3-5; Page 9; Figures 2, 3 and 5; see reference D: Pages 1-3; Figures 1-5):

- a collaborative business process definition specified by a collaborative process definition language and based on a business collaboration protocol, the collaborative business process definition having a plurality of work nodes, each work node having a task role;

- a first collaborative process manager in a first enterprise for executing a first peer process instance of the collaborative business process definition, the first peer process instance having a role; wherein the first peer process instance is responsible only for work nodes that have a role that matches the role of the first peer instance;

- a second collaborative process manager in a first enterprise for executing a second peer process instance of the collaborative business process definition, the second peer process instance having a role; wherein the first peer process instance is responsible only for work nodes that have a role that matches the role of the second peer instance; and

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- a peer-to-peer communication mechanism for enabling data exchange and synchronization between the first and second peer process instances.

Regarding Claim 15 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system further comprising a communication module (message generator) for generating a plurality of messages for the collaborative process manager (service execution, situation assessment, communication, and interaction modules; see reference A: Section 3, Pages 7-11; Figures 1-3; see reference B: Figure 7; negotiation, resource management and enactment modules; see reference C: Section 3, Pages 6-9; Section 4.1, Page 9; Figure 5; see reference D: Section 4, Pages 8-12).

Regarding Claim 17 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system further comprising a private (secure, confidential, etc.) sub-process (processes, services, sub-services) manager (agents, agencies, virtual agency, sub-agents) selectively making process data objects private to a particular collaborative process manager (see reference C: Page 11).

Regarding Claim 18 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system further comprising a role determination module for receiving the task, for determining whether the current task is

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the responsibility of the collaborative process manager, when the current task is the responsibility of the collaborative process manager, for scheduling and dispatching the task for execution, when the task is not the responsibility of the collaborative process manager, not executing the task (service execution, situation assessment, communication, and interaction modules; see reference A: Section 3, Pages 7-11; Figures 1-3; see reference B: Figure 7; negotiation, resource management and enactment modules; see reference C: Section 3, Pages 6-9; Section 4.1, Page 9; Figure 5; see reference D: Section 4, Pages 8-12).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5, 10-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Advanced Decision Environment for Process Tasks (ADEPT) aspects of which are discussed in the following references:

I. Norman, T.J. et al., Designing and implementing a multi-agent architecture for business process management (1996) herein after referred to as reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes (1996) herein after referred to as reference B.

III. O'Brien, P.D. et al., Agent based process management: applying intelligent agents to workflow (1998) herein after referred to as reference C.

IV. Alty, J.L. et al., Advanced Decision Environment for Process Tasks: Overview and Architecture (1994) herein after referred to as reference D.

as applied to claims 1-4, 6-9, 14-15 and 17-20 above.

Regarding Claim 5 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein the task is not the responsibility of the collaborative process manager, not executing the task further

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comprises (see reference B: Page 5, (situation assessment and execution modules) see reference C: Pages 3-6 and 8-9 (enactment module, exception handling)):

g_4) evaluating a message (signal, alert, communication) to determine whether an exception (error, compensation, out-of-order) condition has occurred; and

g_5) when an exception condition has occurred, processing the exception (message, task, etc.); and

g_6) when an exception condition has not occurred, processing the next task.

Advanced Decision Environment for Process Tasks does not expressly teach the utilization of message queuing as part of its message past multi-agent collaboration system.

Official notice is taken that the utilization of message queues for managing tasks is old and very well known in the art and provides a convenient means for managing the asynchronous exchange of information between the plurality of system modules (components, agents, sub-systems, etc.).

It would have been obvious to one skilled in the art that the inter-enterprise collaborative process management system, with its use of messaging (a common approach to enabling different systems, agents, etc. with each other), as taught by Advanced Decision Environment for Process Tasks would have benefited from employing a plurality of common messaging tools, techniques, methods or systems

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including message queuing (queues), the resultant system providing a convenient means for managing service and other requests (messages) asynchronously thereby making it more robust and scalable.

Regarding Claim 10 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein the definition of the business process includes templates (service descriptions, contracts, service level agreements) and the use of scope (sharing, security, confidentiality) that is one of public and process-role specific. (see reference B: Page 7; see reference C: Pages 6 and 11).

Advanced Decision Environment for Process Tasks does not expressly teach that the scope (access control, security, etc.) is specified in at least one template.

Official notice is taken that specifying a plurality of parameters; including such parameters as security (scope) is the purpose of templates the templates insuring that all items (processes, agents, contracts, roles, etc.) created (instantiated) using the template are initialized with the appropriate parameters.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring

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the security of the system through a plurality of means including providing default (standard) security rights (access, scope, etc.) via item templates.

Regarding Claim 11 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein specifying the scope includes setting the scope as public (global, universal, etc.); wherein the data object is public to all process-roles (see reference C: Page 11).

Advanced Decision Environment for Process Tasks does not expressly teach that the scope (access control, security, etc.) is specified in the template.

Official notice is taken that specifying a plurality of parameters, including such parameters as security (scope) is the purpose of templates; the templates insuring that all items (processes, agents, contracts, roles, etc.) created (instantiated) using the template are initialized with the appropriate parameters.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security of the system through a plurality of means including providing default (standard) security rights (access, scope, etc.) via item templates.

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Regarding Claims 12 and 13 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein scope of process-role (agent) is specified and further wherein the data is accessible only to the process-role specified (see reference C: Pages 6 and 11).

Advanced Decision Environment for Process Tasks does not expressly teach that the scope is specified for at least two different process roles or that the scope is specified in at least one template.

Official notice is taken that to associate (include) scope (access control, security, usage, etc.) with a more than one agent, user, role, application, system or the like is old and very-well known in the art as a means for insuring the security of the system.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security and integrity of the system through a plurality of mechanisms including the assignment of scope to at least two difference process roles (agents, users, etc.).

Official notice is taken that specifying a plurality of parameters including such parameters as security (scope) is the purpose of templates the templates insuring that

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all items (processes, agents, contracts, roles, etc.) created (instantiated) using the template are initialized with the appropriate parameters.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security of the system through a plurality of means including providing default (standard) security rights (access, scope, etc.) via item templates.

Regarding Claim 16 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system further comprising an rule-based exception (error, compensation, alternative flow, out-of-order) handling mechanism for receiving messages from other collaborative process managers, determining whether the messages are received is an exception (out-of-order or other error; situation assessment and execution modules; see reference B: Page 5; enactment module, exception handling; see reference C: Pages 3 and 8-9).

The Advanced Decision Environment for Process Tasks does not expressly teach the specific error handling techniques or methods employed by the system.

Official notice is taken that there exists a plurality of mechanisms, methods, techniques and approaches to exception (error) handling. More specifically one well-

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known technique for exception handling to review the exception messages (alerts, signals, etc.) as they are received, halting (interrupting) execution when the exception is detected (received) that matches a particular criteria or rule and not halting (continuing) the execution when the exception received does not meet a particular criteria rule (e.g. severity, priority, etc.).

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks, including its rule-based exception handling capabilities would have benefited from employing any of a plurality of well-known exception handling techniques including creating at least one rule (criteria) wherein exceptions (e.g. out-of-order) are handled in an appropriate manner.

Examiner Note

Examiner has cited particular sections, pages, paragraphs and/or figures in the references applied to the claims for the convenience of the applicant. Although the specific citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Noble et al., U.S. Patent No. 5,822,585, teach a method and system for managing a collaborative process amongst a plurality of enterprises wherein the system further comprises a collaborative process manager (object, agent) and further wherein the collaborative process manager includes means for message handling and distributing/dispatching tasks.

- Chaar et al., U.S. Patent No. 5,960,404, teach a method and system for managing a collaborative process amongst a plurality of enterprises utilizing a peer-to-peer distributed workflow.

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- Notani, Ranjit N., U.S. Patent No. 6,119,149, teaches a method and system for managing a collaborative process amongst a plurality of enterprises.

- Notani et al., U.S. Patent No. 6,397,191, teach a method and system for managing a collaborative workflow amongst a plurality of enterprises (multi-enterprise collaboration). Notani et al. further teach that the workflow comprises collaborative process managers (objects) that are deployed across enterprise boundaries and that the workflow tasks are represented as nodes.

- Notani, Ranjit N., U.S. Patent No. 6,332,155, teaches a method and system for managing collaborative processes amongst a plurality of enterprises (collaboration between and within enterprises) wherein the distributed workflow further comprises the utilization of nodes, templates, and roles.

- Olsen et al., U.S. Patent No. 6,519,542, teach a method and system for managing a collaborative process amongst a plurality of enterprises (cross-enterprises) further comprising the utilization of a process definition language, public/private processes (sub-processes) and modeling the process as a directed graph consisting of nodes and edges.

- Munindar P. Singh et al., Multiagent Systems for Workflow, teach a method and system for managing a collaborating process amongst a plurality of enterprises (multi-agent workflow, cooperative information system) further comprising collaborative process managers (agents), dynamic roles and peer-to-peer communication. Munidar et al. further teach that "there are vast bodies of work on both multi-agent and workflow

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specification and management. Even the specific topic of applying agents in workflows has been studied before.”

- Feng Wan et al., Multiagent Workflow Management, teach a method and system for managing collaborative processes. Feng et al. further teach that the collaborative system utilizes a plurality of agents that “play” roles to perform tasks. More specifically Feng et al. further teach a common agent execution model wherein agents send/receive messages, wait for messages, review/analyze messages, act upon message analysis and send messages (status, updates, etc.) after the action/task has been completed.

- Merz, Michael et al., Using Mobile Agents to Support Interorganizational Workflow-Management, teach a system and method for managing a collaborative process amongst a plurality of businesses (enterprises). Merz et al. further teach that the system utilizes a roles, a decentralized workflow management system, scope control, a peer-to-peer communication mechanism and modeling processes as directed graphs (Petri nets).

- Huhns, Michael, Agent Foundations for Cooperative Information Systems, teaches a method for managing a collaborative process amongst a plurality of enterprises (cooperative information systems) further comprising the use of collaborative process managers (agents).

- Shepherdson J.W., et al., Decentralised workflows and software agents, teach a method and system for managing a collaborative business process amongst a plurality of enterprises (agent enhanced workflow) utilizing collaborative process

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managers (agents) and workflow management systems. Shepherdson et al. further teach that the system models business processes as directed graphs and provides a mechanism for peer-to-peer collaborative process manager communication.

- Odgers B.R. et al., Technologies for Intelligent Workflows: Experiences and Lessons, teach a method and system for managing a collaborative workflow amongst a plurality of enterprises utilizing collaborative process managers (agents). Odgers et al. further teach that the Agent based Process Management System (APMS) is based on the Advanced Decision Environment for Process Tasks (ADEPT).

- Odgers B.R. et al., Distributed Workflow Co-ordination by Proactive Software Agents, teach a method and system for managing a collaborative process among a plurality of enterprises (agent enhanced workflow) utilizing collaborative process managers (agents). Odgers et al. further teach that the system provides a mechanism for peer-to-peer communication between a plurality of decentralized collaborative process managers.

- Collins P. et al., Processual Management Using Intelligent Workflow Systems, teach a plurality of research efforts into the application of agents (collaborative process managers) to enhance workflow systems.

- Shepherdson J.W. et al., Cross Organisational Workflow Co-ordinated by Software Agents, teach a method and system for managing a collaborative process amongst a plurality of enterprising (agent enhanced workflow) utilizing a plurality of collaborative process managers (agents) in distributed computing environment.

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- Gang Wu et al., A Novel Workflow Management Model Based on Mobile Agents for Internet Electronic Commerce, teach a method and system for managing a collaborative process among a plurality of enterprises utilizing a plurality of collaborative process managers (mobile agents).
- Huhns, Michael et al., Workflow Agents, teach method for managing a collaborative business process amongst a plurality of enterprises utilizing collaborative process managers (workflow agents). Huhns et al. further teach that the multi-enterprise collaboration method models workflow using graphs (nodes, edges).
- The evolution of business processes from description to data to smart executable code, teaches a method and system for managing a collaborative process amongst a plurality of enterprises. The article further teaches the well-known use of business process modeling languages, business process management systems as well as the need/drive to connect enterprises at the process-level.
- Chen, Qiming et al., Dynamic-Agents, Workflow and XML for E-Commerce, teach an online system and method for managing collaborative processes between enterprises utilizing dynamic agents (cooperative agents) wherein the agents exhibit dynamic behavior (roles) and further comprise a message handler, services and an action handler.
- Qiming, Chen et al., Multi-Agent Cooperation, Dynamic Workflow and XML for E-Commerce, teach a system and method for establishing a collaborative process between (amongst) a plurality of enterprises further comprising collaborative process managers (dynamic agents, agents) utilizing peer-to-peer communication

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mechanism(s). Qiming et al. further teach that others have studied multi-agent cooperation and workflow.

- Glushko, Robert J. et al., An XML Framework for Agent-based E-Commerce , teach a method for managing a collaborative inter-enterprise process utilizing a plurality of collaborative process managers (agents). Glushko et al. further teach a plurality of communication and business process modeling (languages) mechanisms.

- Jonker, Wilem et al., Workflow Management Systems and Cross-Organizational Logistics, teach a method and system for establishing and managing collaborative cross-organizational (inter-enterprise) processes (workflows).

- Klusch, Matthias; Intelligent Information Agents, teaches (reviews) a plurality of well-known agent technologies, systems, methods and techniques.

- Weiss, Gerhard, Multiagent Systems: A Modern Approach to Distributed Artificial Intelligence, teaches (reviews) a plurality of well-known agent (multi-agent) technologies, systems, methods and techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (703) 306-5679. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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